

ABSTRACT OF THE DISCLOSURE

An apparatus and a method of communicating a set of user data in an ATM network-based mobile communication system are disclosed. To transmit the set of user data, N internal AAL packets are generated by adding an internal AAL packet header to each of N data subsets of an original set of user data. The internal AAL packet header includes a sequence number of each data subset. Next, one or more internal AAL cells are generated by multiplexing the internal AAL packets. Then, the original set of user data is restored by demultiplexing the internal AAL packets, included in the internal AAL cells. Thereafter, M AAL2 packets are generated by adding an AAL2 packet header to each of M data subsets of the restored set of user data. And finally, one or more AAL2 cells are generated by multiplexing the AAL2 packets. As a result, the set of user data is transmitted in the system in a much more efficient manner. Therefore, the data traffic rate in each part of the system is greatly enhanced.